

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An equatorial tracking platform for a telescope, operable at a plurality of latitudes, said platform comprising:

an essentially planar telescope platform, said platform having a top and bottom side, a platform base being situated below said platform top;

said platform base having a plurality of adjustable engagement angle rolling bearing elements;

said ~~top~~ essentially planar telescope platform element having attached to the bottom side ~~its underside~~ a contoured rear bearing block having fabricated into its surfaces varying radii segments;

said ~~top~~ essentially planar telescope platform also having a ~~fixed~~ front bearing surface of fixed radius and adjustable angle;

said front bearing surface and rear bearing block surface contacting said rolling bearing body elements.

2. (Currently amended) An equatorial tracking platform for a telescope, operable at a plurality of latitudes by means of adjusting the angles of its ~~it's~~ rolling surfaces and contact rollers.

3. (Currently amended) An equatorial tracking platform for a telescope of claim 1, further comprising ~~having~~ motors fitted to one or more of its rolling bearing elements.

4. (Currently amended) An equatorial tracking platform for a telescope, operable at a plurality of latitudes, said platform comprising:

an essentially planar telescope platform, said platform having a top and bottom side, a platform base being situated below said platform top;

said platform base having a plurality of adjustable engagement angle rolling bearing elements;

said ~~top~~ essentially planar telescope platform element having attached to the bottom side ~~its underside~~ a contoured rear bearing block having fabricated into its surfaces varying radii segments;

said ~~top~~ essentially planar telescope platform also having a front bearing surface ~~of~~ having fabricated into its surfaces varying radii segments.

said front bearing surface and rear bearing block surface contacting said rolling bearing body elements.

5. (Currently amended) An equatorial tracking platform for a telescope of claim 4, further comprising ~~having~~ motors fitted to one or more of its rolling bearing elements.

6. (Currently amended) An equatorial tracking platform for a telescope, operable at a plurality of latitudes, said platform comprising:

an essentially planar telescope platform, said platform having a top and bottom side, a platform base being situated below said platform top;

said platform base having a plurality of adjustable engagement angle rolling bearing elements;

said ~~top~~ essentially planar telescope platform element having attached to the bottom side ~~it's underside~~ a contoured rear bearing block having fabricated into its surfaces varying radii segments;

said ~~top~~ essentially planar telescope platform element also having a front bearing surface ~~of~~ having fabricated into its surfaces fixed radii segments.

said front bearing surface and rear bearing block surface contacting said rolling bearing body elements.

7. (Currently amended) An equatorial tracking platform ~~Platform~~ for a telescope of claim 6, further comprising ~~having~~ motors fitted to one or more of the ~~to~~ rolling bearing elements.

8. (New) A tracking platform for a telescope, comprising:

a planar base;

a plurality of adjustable hinges attached to the planar base;

a roller mounted to each of the plurality of adjustable hinges;

a telescope platform supported by the rollers;

wherein the telescope platform comprises a rear bearing block comprising a plurality of contours of differing radii in contact with at least two of the rollers.

9. (New) A tracking platform for a telescope according to claim 8, wherein the contours of differing radii are defined as a function of contact angle between the rear bearing block and the at least two rollers.

10. (New) A tracking platform for a telescope according to claim 8, further comprising:

at least one additional adjustable hinge attached to the telescope platform;

a front bearing surface attached to the at least one adjustable hinge in contact with at least two more of the rollers.

11. (New) A tracking platform for a telescope according to claim 10 wherein the plurality of adjustable hinges comprise a front pair of hinges and a rear pair of hinges, wherein each of the pair of front and rear hinges is adjusted from vertical by an angle of displacement equal to a latitude angle of operation.

12. (New) A tracking platform for a telescope according to claim 11 wherein the at least one additional adjustable hinge is adjusted to an angle of displacement equal to 90 degrees plus the latitude angle of operation.

13. (New) A tracking platform for a telescope according to claim 10 wherein the front bearing surface comprises a plurality of radii as a function of latitude contact angle.

14. (New) A tracking platform for a telescope according to claim 8 wherein the at least one additional adjustable hinge is attached to a top surface of the telescope platform.

15. (New) A tracking platform for a telescope according to claim 8 wherein the plurality of contours of differing radii comprise a family of contours defined as a function of latitudinal angle according to the following equation:

$$r_j = A + B * \sin(j);$$

wherein A is a front bearing surface radius of the telescope platform, j is the latitude angle, and B is a spacing between the front bearing surface and the rear bearing block.

16. (New) A method of operating a telescope tracking platform, comprising:
providing a planar base, a plurality of adjustable hinges attached to the planar base, a roller mounted to each of the plurality of adjustable hinges, a telescope platform supported by the rollers, the telescope platform comprising a rear bearing block comprising a plurality of contours of differing radii in contact with at least two of the rollers;

adjusting each of the plurality of adjustable hinges to an angle of displacement from vertical equal to a latitude angle of operation.

17. (New) A method of operating a telescope tracking platform according to claim 16, further comprising:

providing at least one additional adjustable hinge attached to the telescope platform and a front bearing surface attached to the at least one adjustable hinge in contact with at least two more of the rollers;

adjusting the at least one additional hinge to an angle of displacement equal to 90 degrees plus the latitude angle of operation.

18. (New) A tracking platform for a telescope, comprising:

a planar base;

a plurality of rollers attached to the planar base;

a telescope platform supported by the plurality of rollers;

wherein the telescope platform comprises a rear bearing block comprising a plurality of continuous contours of differing radii in contact with at least two of the rollers.

19. (New) A tracking platform for a telescope according to claim 18, wherein the telescope platform comprises a front bearing block comprising a plurality of continuous contours of differing radii in contact with at least two of the rollers.